

Yet while essential, none of these options enables carriers to ubiquitously serve the customer markets affected by the evolving network architecture deployments of the ILECs. Furthermore, as discussed in detail below, the intransigence with which the ILECs meet their statutory and regulatory obligations means that meaningful implementation of the rules is not only not a reality today, but will take some time to reach fruition. Accordingly, the Commission must adopt the clarification of ILEC loop unbundling obligations discussed above, while still preserving a menu of alternatives for CLECs to use as they ripen into real options at some time down the line.

A. CLECs Must Have the Ability to Collocate Line Cards in the DLC Chassis at the ILECs' Remote Terminals on a Nondiscriminatory Basis.

As numerous CLECs, including Rhythms, WorldCom, and Covad, have repeatedly—and correctly—argued to state and federal regulators, collocation of line cards falls squarely within the Commission's existing collocation, unbundling and interconnection requirements.⁴⁹ Given

⁴⁸ E.g., *NPRM* at ¶¶ 56-58.

⁴⁹ E.g., *Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from Ameritech Corporation, Transferor, to SBC Communications, Inc., Transferee*, CC Docket No. 98-141, Comments of DSL Access Telecommunications Alliance on SBC's Request for Interpretation, Waiver, or Modification of the SBC/Ameritech Merger Conditions (March 3, 2000) ("DATA Comments"); *In the Matter of the Arbitration between Rhythms Links, Inc. and Covad Communications Company Versus Bell Atlantic-Maryland, Inc., Pursuant to Section 252(b) of the Telecommunications Act of 1996*, Maryland Case No. 8842, Post-Hearing Brief of Rhythms Links Inc. at 29-41, Post-Hearing Brief of Covad Communications Company (Aug. 14, 2000); *In re: Further Pricing of Bell Atlantic-PA Inc.'s Unbundled Network Elements*, Pennsylvania Docket No. R-00005261, Joint Testimony of Terry L. Murray and Joseph P. Riolo on behalf of Covad Communications Company, Intermedia Communications, Inc. and Rhythms Links Inc. at 14-23, 177-179 (Oct. 4, 2000), Main Brief on behalf of Covad Communications Company and Rhythms Links Inc. (Jan. 10, 2001); *Proceeding on Motion of the Commission to Examine Issues Concerning the Provision of Digital Subscriber Line Services*, New York Case 00-C-0127, Initial Brief of Covad Communications Company at 15-18, Initial Brief of Rhythms Links Inc. at 44-50 (Aug. 15, 2000), *Proceeding on Motion of the Commission to Examine Issues Concerning the Provision of Digital Subscriber Line Services*, New York Case 00-C-0127, Reply Brief of Covad Communications Company at 12-15, Reply Brief of Rhythms Links Inc. at 18-27 (Aug. 25, 2000); *Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in M.D.T.E. No. 17, filed with the Department by Verizon New England, Inc. d/b/a Verizon Massachusetts on May 5 and June 14, 2000, to become effective October 2, 2000*, Massachusetts D.T.E. 98-57-Phase III, Initial Brief of Rhythms Links Inc. (Aug. 18, 2000) at 36-48, Initial Brief of Covad Communications Company (Aug. 18, 2000) at 12-13, Reply Brief of Rhythms Links Inc. at 25-35, Reply Brief of Covad Communications Company at 12-17 (Sept. 1, 2000); *Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in M.D.T.E. No. 17, filed with the Department by Verizon New England, Inc. d/b/a Verizon Massachusetts on May 5 and June 14, 2000, to become effective October 2, 2000*, Massachusetts

the ILECs' deployment of next generation architecture, the ability to place line cards in the DLC is essential to development of the facilities-based competition envisioned by the Act.

Accordingly, the Commission must act now to reiterate—consistent with a rapidly increasing number of state commission rulings—that “a requesting carrier may physically or virtually collocate its line card at the remote terminal by installing it in the incumbent’s DLC for the purposes of line sharing.”⁵⁰

To foster facilities-based competition, several state commission have recognized the feasibility of allowing CLECs to collocate line card in the remote terminals for interconnection with the incumbents’ networks. For instance, the Illinois Commerce Commission “require[s] Ameritech to install plug-in cards that support all DSL-based services requested by the

D.T.E. 98-57-Phase III, WorldCom Comments Regarding Motions for Reconsideration, Clarification and Extension of Time filed in Response to Department’s September 29, 2000 Order at 2 (Nov. 9, 2000); *Rulemaking on the Commission’s Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, California Rulemaking 93-04-003 (Filed April 7, 1993) and *Investigation on the Commission’s Own Motion Into Open Access and Network Architecture Development of Dominant Carrier Networks*, California Investigation 93-04-002 (Filed April 7, 1993) Second Joint Pre-Hearing Conference Statement Of Rhythms Links, Inc (U 5813 C), AT&T Communications Of California, Inc.(U 5002 C), And Worldcom, Inc. (U 5011 C) (Feb. 7, 2001); *Proposed Implementation of High Frequency Portion of Loop (HFPL)/Line Sharing Service*, Illinois Docket No. 00-0393, Opening Brief of Rhythms Links, Inc. (Nov. 17, 2000); *Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Amendment for Line Sharing to the Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois, and for an Expedited Arbitration Award on Certain Core Issues*, Illinois Docket Nos. 00-0312 and 00-0313, Post-Hearing Brief of Rhythms Links, Inc. and Covad Communications Company at 28-33 (July 13, 2000), Reply of Rhythms Links, Inc. and Covad Communications Company to Ameritech Illinois’ Brief on Exceptions at 5-26 (Jan. 29, 2001); *Petition of IP Communications Corporation to Establish Expedited Public Utility Commission of Texas Oversight Concerning Line Sharing Issues*, Texas Docket No. 22168, *Complaint of Covad Communications Company and Rhythms Links, Inc. Against Southwestern Bell Telephone Company and GTE Southwest Inc. for Post-Interconnection Agreement Dispute Resolution and Arbitration Under the Telecommunications Act of 1996 Regarding Rates, Terms, and Conditions and Related Arrangements for Line-Sharing*, Texas Docket No. 22469, Rhythms Initial Brief at 32-57 (Feb. 9, 2001); *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, and *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Rhythms Comments at 19-23, 44, 53; WorldCom Comments at 2, 7-10 (Oct. 12, 2000).

⁵⁰ NPRM at ¶ 56.

CLECs.”⁵¹ The Massachusetts DTE has also concluded that Verizon must “file a tariff that would enable CLECs to place or have Verizon place CLEC-purchased line cards in Verizon’s DLC electronics at the RT.”⁵² Furthermore, Verizon and SBC are already performing trials of the NGDLC technology that allows for placement of DSL line cards at the remote terminals.⁵³ In reiterating the ILEC obligations under its rules, this Commission must be careful not to undo the considerable efforts of these states. At the same time, the Commission must recognize that competitive LECs have been forced into the tenuous position of advocating the same position in state after state, while incumbent LECs resist providing NGDLC access in any state that has not yet ordered it. A federal rule clearly setting out these obligations would obviate the need for such regulatory battles.

Yet, the reality of the present ILEC-controlled climate is that even with the statutory and regulatory mandates to permit CLECs to collocate line cards firmly in place, and echoed by a growing number of state commissions, ILEC intransigence and refusals will mean that CLECs will be unable to realize the full benefit of this requirement for some time to come. ILECs will contest the rulings, engaging in prolonged regulatory and appellate litigation. While giving lip-service to implementation, their tariff offerings will undoubtedly once again fall far short of their obligations. ILECs may choose not to equip their DLCs with line cards that can provide the full technically feasible array of DSL-based services. ILECs may require CLECs to engage in

⁵¹ *Rhythms Links, Inc. Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Amendment for Line Sharing to the Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois, and for an Expedited Arbitration Award on Certain Core Issues*, Docket Nos. 00-0313, *et al.*, Arbitration Decision (I.C.C. Aug. 17, 2000) (“*Illinois Line Sharing Order*”) at 32.

⁵² *Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in M.D.T.E. No. 17, filed with the Department by Verizon New England, Inc. d/b/a Verizon Massachusetts on May 5 and June 14, 2000, to become effective October 2, 2000*, D.T.E. 98-57-Phase III, Order (September 29, 2000) (“*Massachusetts Line Sharing Order*”) at 72.

protracted testing exercises. Just as with implementation of line sharing, the ILECs will delay the necessary processes as long as possible, all the while locking in the broadband customer base that CLECs are denied the ability to serve.

Ultimately, a competitive market will demand full interoperability by manufacturers of DLCs and cards. In order for DSLAM manufacturers to develop cards, certain limited technical specifications are required from the DLC manufacturers, which have not been forthcoming with this information. True interoperability requires sufficiently open standards so that carriers can control their own networks and vendors can manufacture plug-compatible cards. These standards take time to develop. ILECs have resisted such interoperability. They have already enlisted the assistance of their primary vendors to deter the interoperability standards that would benefit the “plug and play” process. Without support from key purchasers of DLC equipment, most vendors have little incentive to develop such options. Moreover, the uncertainty over how the ILECs’ statutory obligations will be enforced constrains the research and development by vendors, although Section 256 established strict principles of openness and interoperability in constructing a competitive network.⁵⁴

The opposition to CLEC placement of line cards by ILECs and their manufacturers should be seen as the effort by the incumbents to preserve and extend the self-serving monopoly position they seek to enshrine in a Commission rule by granting themselves immunity from the Act in any new network architecture or technology. The Commission, therefore, must also ensure that the ILECs do not deny CLECs the opportunity to compete for DLC customers today.

⁵³ Pennsylvania Public Utility Commission arbitration conference Docket Nos. A-310696 and A-310698, at Tr. 207; News Release: SBC to Start Offering DSL Service From Neighborhood Broadband Gateways Deployed Through Project Pronto (August 22, 2000).

⁵⁴ Section 256 obligates all carriers and this Commission to ensure that ILECs work cooperatively with competitors to ensure continued interconnection and interoperability between and among networks. 47 U.S.C. § 256.

When their NGDLC is being deployed, ILECs must provide CLECs with the full unbundled NGDLC loop capabilities, including DSLAM functionality, as discussed previously in section II.

B. CLECs Must Continue to Have Nondiscriminatory Access to Subloops.

Federal rules require—and must continue to require—ILECs to provide competitors with access to subloops and dark fiber.⁵⁵ According to the Commission in the *UNE Remand Order*, “[l]ack of access to subloops discourages competitive LECs from attempting to combine their own feeder plant with the incumbent’s distribution plant to minimize their reliance on the incumbents’ facilities.”⁵⁶ This Commission’s NPRM appropriately recognized that subloops and dark fiber offerings are insufficient to enable CLECs to broadly serve customers as ILECs rapidly deploy NGDLC in their network.⁵⁷ Consequently, in addition to these requirements, the Commission must reiterate the ILEC requirement to provision a fully DSL-capable loop through NGDLC architectures as described above.

All portions of the loop from the NID to the MDF must be available as unbundled subloop elements, regardless of the technology used to provision the loop. Thus, CLECs may access any of the feeder, feeder distribution interfaces or distribution components of the loops as individual network elements,⁵⁸ accessible subject to the Commission’s collocation rules.⁵⁹ Specifically, the Commission should require that CLECs be able to obtain any subloop element required to complete the facility between the end user and the central office. A requesting CLEC must have access to the subloop element that provides a copper distribution facility serving the end user premises. CLECs must also be able to obtain, as a subloop element, the feeder portion

⁵⁵ *UNE Remand Order* at ¶¶ 167, 174, 196-199, 209-219.

⁵⁶ *UNE Remand Order* at ¶ 205. See also 47 C.F.R. § 51.319(a)(2); *UNE Remand Order* at ¶ 202.

⁵⁷ *NPRM* at ¶ 57.

⁵⁸ *UNE Remand Order* at ¶ 202.

⁵⁹ 47 C.F.R. §§ 51.321-323.

of the loop from the FDI to the remote terminal, as well as the fiber facility that runs from the DLC to the central office, where the ILEC hands off the signal to a collocated CLEC.

As stated in *UNE Remand Order*, “lack of access to the part of the incumbent’s loop they need could impede competitors’ ability to develop their own network architecture and provide new service offerings.”⁶⁰ Although the availability of subloop options will ultimately enable CLECs to use their own facilities, as opposed to the ILECs providing the services, the existing ILEC subloop offerings fall far short of enabling the goal of facilities-based deployment, and are not “readily available” from the ILECs.⁶¹ Moreover, the ILECs’ offerings for subloops and dark fiber do not provide for access at every technically feasible point, or every remote terminal.⁶²

For example, ILECs impermissibly limit their subloop unbundling offerings to the provision of copper loop distribution plant, thereby stranding CLECs at the remote terminals or FDIs.⁶³ Verizon’s *UNE Remand* implementation tariff contains a limited definition of available “subloops” refusing to provide the unbundled facility between the FDI and the remote terminals housing the DLC equipment.⁶⁴ As a consequence, the necessary subloop portions are incomplete and CLECs have no “readily available” subloop alternative.

The Commission’s rules also provide competitors the option of purchasing dark fiber facilities in the outside loop plant, specifically between the remote terminal and the central office.⁶⁵ As a practical matter, accessing dark fiber at the remote terminal for use of carrying

⁶⁰ *UNE Remand Order* at ¶ 215.

⁶¹ *NPRM* at ¶ 57.

⁶² SBC Technical Reference Notice for Broadband Service Phase 1; Verizon M.D.T.E. No. 17, Part B, Section 18 and 20; New York Telephone Company, P.S.C. No. 916, original page 114, § 5.19.1.1.

⁶³ On certain NGDLC local loops, the fiber and copper portions of the loop do not meet at the FDI. The loop may consist of a fiber feeder portion that connects to a short length of copper feeder that connects to the copper distribution pair.

⁶⁴ See e.g., Verizon M.D.T.E. No. 17, Part B, Section 18 and 20.

⁶⁵ 47 C.F.R. § 51.319.

DSL signals requires additional equipment to be collocated at the remote location.⁶⁶ In addition to placing equipment with DSLAM functionality in the remote terminal, CLECs would also be required to place equipment in the remote terminal to light the fiber.⁶⁷ Even assuming competitors were willing to sustain the additional time and costs associated with such deployment, it is unlikely that the remote terminal will have the space to collocate the necessary equipment. This also presumes that ILECs will take the affirmative step of deploying dark fiber at all. SBC is generally deploying twelve strand fiber to the RT, and has announced that only two strands will be available for CLEC use.⁶⁸

The serious deficiencies of the ILEC subloop offerings make them completely unsuitable for provisioning customers in an NGDLC architecture at this time. Furthermore, the significant delay and reluctance these options foretell heightens the need for Commission action on a unbundled loop with the full features, functions and capabilities necessary to provide broadband data services. Consumers should not be compelled to wait for competitive options for broadband services until suitable subloop alternatives *are* readily available.

C. CLECs Must Continue to Have Nondiscriminatory Access to Spare Copper.

The Commission has recognized that spare copper provides yet another option for competitors, once the ILECs begin offering advanced services over their NGDLC architectures.⁶⁹ Competitors continue to require the right to access to spare copper even after deployment of NGDLC in a distribution area. Only with access to copper plant can carriers continue to deploy varieties of DSL, such as SDSL, that are not yet supported by NGDLC technology. Thus, in

⁶⁶ Rhythms October 12th Joint Declaration at 106-107.

⁶⁷ Rhythms October 12th Joint Declaration at 106-107.

⁶⁸ WorldCom October 12th Comments at 13.

⁶⁹ *NPRM* at ¶ 58.

order to ensure that customers continue to be able to select among a menu of DSL services that meet their particular service needs, the Commission should require ILECs to make copper available to broadband competitors.

Furthermore, the Commission should not allow ILECs to take copper plant out of service if it is being used by a CLEC to provision service. In a shared line context, as opposed to a stand-alone loop product such as SDSL, the DSL CLEC shares the existing voice line, the Commission has accurately noted that there could be “service disruption” that would “make this a less desirable option”.⁷⁰

Access to spare copper alone, however, is insufficient to ensure that CLECs can offer a competitive line sharing product to all customers served behind DLC. The typical ILEC practice—once fiber is installed—is to re-use the existing copper in the feeder plant to serve customers between the central office and the remote terminal. Consequently, the “old” copper loop to a customer beyond the remote terminal no longer exists: the distribution portion (half the copper loop) of the loop is now used to connect the customer to the remote terminal, which in turn is connected by the fiber to the central office. The copper feeder portion of the loop is recycled to another customer closer to the central office. Thus, the copper loop no longer exists as the loop was, but the copper is still in the ground.

Moreover, as WorldCom and Rhythms have stated, spare copper may not work for every DSL application, especially ADSL, because of interference concerns.⁷¹ The copper plant that parallels NGDLC loop plant may be unusable due to interference from the remote terminal

⁷⁰ *NPRM* at ¶ 58.

⁷¹ Rhythms October 12th Comments at 89; Rhythms October 12th Joint Declaration at 121-124; WorldCom October 12th Comments at 14; *see also* Illinois Commerce Commission, Proposed Implementation of High Frequency Portion of Loop (HFPL) Line Sharing Service, Docket No. 00-0393, Hearing Tr. (John P. Lube, SBC Communications, Inc.) (October 16, 2000) (“Lube Tr.”) at 199-355.

generated ADSL signals of ILECs or competitors.⁷² Specifically, ADSL—the primary technology used for line sharing—generates a signal at the DSLAM in the downstream direction that attenuates as it reaches the end user.⁷³ Thus, a signal carried on the copper feeder cable from the central office would have significantly attenuated by the time it reached the copper distribution cable at the remote terminal. As the signal weakens, it becomes more susceptible to interference. In the next generation architecture, ADSL would also be generated from the remote terminal location. The strength of this signal generated in the remote terminal would interfere with the ADSL originating in the central office, therefore running ADSL on parallel copper loops once a DSLAM has been deployed in a remote terminal may simply not be possible.⁷⁴

It is crucial that the Commission not allow the ILECs to avoid their unbundling obligations in the next generation network. As competition advances in the DSL market, the CLECs' need for access to each of the unbundled elements will also grow. This Commission has developed a regulatory scheme of unbundling and collocation requirements that, if implemented properly, will ensure facilities-based competition through the fulfillment of the ILECs' statutory requirements under Section 251. To find otherwise would hinder the broadest deployment of facilities-based competitive provider alternatives.

As another example, by literally hard wiring the subloops to the remote terminal, SBC designed the Project Pronto remote terminals in a manner that precluded any reasonable access to subloops by collocating CLECs. SBC's retail DSL affiliate can access subloops through Project Pronto at zero incremental cost, while collocating CLECs must pay between \$15,000 and

⁷² Rhythms October 12th Joint Declaration at 121-126; WorldCom October 12th Comments at 14.

⁷³ Rhythms October 12th Joint Declaration at 121-126; WorldCom October 12th Comments at 14.

⁷⁴ Focus Group 3 of the Network Reliability and Interoperability Council (NRIC V) is presently preparing a spectrum management plan for the Commission that addresses these issues. A Status Report was presented to the full NRIC Council on February 27, 2001.

\$30,000 per remote terminal for access to the subloops (setting aside other collocation costs). Given SBC's assumption of 16-24 remote terminals per central office, collocating CLECs must pay between \$240,000 and \$720,000 per central office more than SBC's retail DSL affiliate merely to access subloops.⁷⁵ Accordingly, ILECs should be required to legally unbundle the subloop at the remote terminal, should retrofit the existing DLC remote terminals to allow for access at the remote terminal (*e.g.*, the engineering controlled splice in the case of SBC), and should price the access to the subloop applying forward-looking costing and pricing principles—which results in a zero price.

⁷⁵ At a recent DSL hearing at the Texas commission, SBC's witness stated that an engineered controlled splice would cost a CLEC between \$15,000 and \$30,000 per remote terminal. Petition of IP Communications Corporation to Establish Expedited Public Utility Commission of Texas Oversight Concerning Line Sharing Issues; Petition of Covad Communications Company and Rhythms Links, Inc. Against Southwestern Bell Telephone Company and GTE Southwest, Inc. for Post-Interconnection Dispute Resolution and Arbitration Under the Federal Telecommunications Act of 1996 Regarding Rates, Terms, and Conditions and Related Arrangements for Line Sharing, Docket Nos. 22168 and 22469, Texas Public Utility Commission, Tr. at 441 (Hearing on the Merits, November 29, 2000).

CONCLUSION

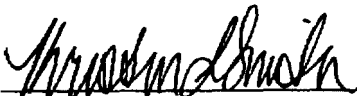
For all these reasons, the Commission should expeditiously conclude that its present unbundling rules require ILECs to provide an unbundled loop with the full features, functions and capabilities necessary to provide broadband data services, in addition to the variety of other alternatives available to CLECs for provisioning advanced services to customers served by NGDLC loops.

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